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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,817	11/24/2003	Abhay Sudhakar Rao Kant	133918-1	5358
23413	7590	04/11/2005	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			LAU, TUNG S	
			ART UNIT	PAPER NUMBER
			2863	
DATE MAILED: 04/11/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,817

Applicant(s)

KANT ET AL.

Examiner

Tung S. Lau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-50 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Combination/subcombination

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-4, drawn to sensing rub condition on turbomachine, classified in class 702, subclass 188.
 - II. Claims 5-10, drawn to rub condition on turbomachine using shell metal temperature differences, classified in class 702, subclass 99.
 - III. Claims 11, 12, 34, 35, drawn to rub condition on turbomachine using rotor speed with first and second critical speed, classified in class 702, subclass 96.
 - IV. Claims 13-14, 15-16, drawn to rub condition on turbomachine using low pressure bearing vibration, classified in class 702, subclass 47.
 - V. Claims 17, 40, drawn to rub condition on turbomachine using vibration and high differential expansion, classified in class 702, subclass 56.
 - VI. Claim 18, drawn to rub condition on turbomachine obtaining data on turning gear behavior, classified in class 702, subclass 33.
 - VII. Claims 19, 42 drawn to rub condition on turbomachine using startup analysis, classified in class 702, subclass 176.
 - VIII. Claims 20, 43 drawn to rub condition on turbomachine using fixed speed with no load, classified in class 702, subclass 174.

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- IX. Claims 21-16, drawn to rub condition on turbomachine using standard deviation greater than limits, classified in class 702, subclass 145.
- X. Claim 27 drawn to rub condition on turbomachine using response to critical speed with load, classified in class 702, subclass 142.
- XI. Claims 28-33, drawn to rub condition on turbomachine using constant speed with no load, classified in class 702, subclass 145.
- XII. Claim 41 drawn to rub condition on turbomachine using abnormal vibration in shutdown, classified in class 702, subclass 150.
- XIII. Claims 36-37, 38-39, 44-49 drawn to rub condition on turbomachine using low pressure bearing with standard deviation abnormal vibration, classified in class 702, subclass 50.
- IVX. Claim 50 drawn to rub condition on turbomachine unsteady state vibration determination, classified in class 702, subclass 57.

The inventions are distinct, each from the other because of the following reasons:

Invention I and II are related as combination (invention I) and subcombination (invention II). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention II, the combination as claimed does not required condition on turbomachine using shell metal

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temperature differences. The subcombination (invention II) has separate utility such as a condition on turbomachine using shell metal temperature differences.

Invention I and III are related as combination (invention I) and subcombination (invention III). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention III, the combination as claimed does not required condition on turbomachine using rotor speed with first and second critical speed. The subcombination (invention III) has separate utility such as a condition on turbomachine using rotor speed with first and second critical speed.

Invention I and IV are related as combination (invention I) and subcombination (invention IV). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IV, the combination as claimed does not required condition on turbomachine using low pressure bearing vibration. The subcombination (invention IV) has separate utility such as a condition on turbomachine using low pressure bearing vibration.

Invention I and V are related as combination (invention I) and subcombination (invention V). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention V, the combination as claimed does not required a condition on turbomachine using vibration and high differtential expansion. The subcombination (invention V) has separate utility such as a condition on turbomachine using vibration and high differtential expansion.

Invention I and VI are related as combination (invention I) and subcombination (invention VI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VI, the combination as claimed does not required a condition on turbomachine obtaining data on turning gear behavior. The subcombination (invention VI) has separate utility such as a condition on turbomachine obtaining data on turning gear behavior.

Invention I and VII are related as combination (invention I) and subcombination (invention VII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as

claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VII, the combination as claimed does not required a rub condition on turbomachine using startup analysis. The subcombination (invention VII) has separate utility such as a rub condition on turbomachine using startup analysis.

Invention I and VIII are related as combination (invention I) and subcombination (invention VIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VIII, the combination as claimed does not required a condition on turbomachine using startup analysis. The subcombination (invention VIII) has separate utility such as a condition on turbomachine using startup analysis.

Invention I and IX are related as combination (invention I) and subcombination (invention IX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IX, the

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combination as claimed does not required a condition on turbomachine using standard deviation greater than limits. The subcombination (invention IX) has separate utility such as a condition on turbomachine using standard deviation greater than limits.

Invention I and X are related as combination (invention I) and subcombination (invention X). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention X, the combination as claimed does not required a condition on turbomachine using response to critical speed with load. The subcombination (invention X) has separate utility such as a condition on turbomachine using response to critical speed with load.

Invention I and XI are related as combination (invention I) and subcombination (invention XI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XI, the combination as claimed does not required a condition on turbomachine using constant speed with no load. The subcombination (invention XI) has separate utility such as a condition on turbomachine using constant speed with no load.

Invention I and XII are related as combination (invention I) and subcombination (invention XII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XII, the combination as claimed does not required a condition on turbomachine using abnormal vibration in shutdown. The subcombination (invention XII) has separate utility such as a condition on turbomachine using abnormal vibration in shutdown.

Invention I and XIII are related as combination (invention I) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XIII, the combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention I and IVX are related as combination (invention I) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the

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combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination (invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention II and III are related as combination (invention II) and subcombination (invention III). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention III, the combination as claimed does not required condition on turbomachine using rotor speed with first and second critical speed. The subcombination (invention III) has separate utility such as a condition on turbomachine using rotor speed with first and second critical speed.

Invention II and IV are related as combination (invention II) and subcombination (invention IV). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other

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combinations.(MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IV, the combination as claimed does not required condition on turbomachine using low pressure bearing vibration. The subcombination (invention IV) has separate utility such as a condition on turbomachine using low pressure bearing vibration.

Invention II and V are related as combination (invention II) and subcombination (invention V). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention V, the combination as claimed does not required a condition on turbomachine using vibration and high differtential expansion. The subcombination (invention V) has separate utility such as a condition on turbomachine using vibration and high differtential expansion.

Invention II and VI are related as combination (invention II) and subcombination (invention VI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VI, the combination as claimed does not required a condition on turbomachine obtaining data

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on turning gear behavior. The subcombination (invention VI) has separate utility such as a condition on turbomachine obtaining data on turning gear behavior.

Invention II and VII are related as combination (invention II) and subcombination (invention VII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VII, the combination as claimed does not required a rub condition on turbomachine using startup analysis. The subcombination (invention VII) has separate utility such as a rub condition on turbomachine using startup analysis.

Invention II and VIII are related as combination (invention II) and subcombination (invention VIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VIII, the combination as claimed does not required a condition on turbomachine using startup analysis. The subcombination (invention VIII) has separate utility such as a condition on turbomachine using startup analysis.

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Invention II and IX are related as combination (invention II) and subcombination (invention IX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IX, the combination as claimed does not required a condition on turbomachine using standard deviation greater than limits. The subcombination (invention IX) has separate utility such as a condition on turbomachine using standard deviation greater than limits.

Invention II and X are related as combination (invention II) and subcombination (invention X). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention X, the combination as claimed does not required a condition on turbomachine using response to critical speed with load. The subcombination (invention X) has separate utility such as a condition on turbomachine using response to critical speed with load.

Invention II and XI are related as combination (invention II) and subcombination (invention XI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as

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claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XI, the combination as claimed does not required a condition on turbomachine using constant speed with no load. The subcombination (invention XI) has separate utility such as a condition on turbomachine using constant speed with no load.

Invention II and XII are related as combination (invention II) and subcombination (invention XII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XII, the combination as claimed does not required a condition on turbomachine using abnormal vibration in shutdown. The subcombination (invention XII) has separate utility such as a condition on turbomachine using abnormal vibration in shutdown.

Invention II and XIII are related as combination (invention II) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XIII, the

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combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention II and IVX are related as combination (invention II) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination (invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention III and IV are related as combination (invention III) and subcombination (invention IV). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IV, the combination as claimed does not required condition on turbomachine using low

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pressure bearing vibration. The subcombination (invention IV) has separate utility such as a condition on turbomachine using low pressure bearing vibration.

Invention III and V are related as combination (invention III) and subcombination (invention V). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention V, the combination as claimed does not required a condition on turbomachine using vibration and high differtential expansion. The subcombination (invention V) has separate utility such as a condition on turbomachine using vibration and high differtential expansion.

Invention III and VI are related as combination (invention III) and subcombination (invention VI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VI, the combination as claimed does not required a condition on turbomachine obtaining data on turning gear behavior. The subcombination (invention VI) has separate utility such as a condition on turbomachine obtaining data on turning gear behavior.

Invention III and VII are related as combination (invention III) and subcombination (invention VII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VII, the combination as claimed does not required a rub condition on turbomachine using startup analysis. The subcombination (invention VII) has separate utility such as a rub condition on turbomachine using startup analysis.

Invention III and VIII are related as combination (invention III) and subcombination (invention VIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VIII, the combination as claimed does not required a condition on turbomachine using startup analysis. The subcombination (invention VIII) has separate utility such as a condition on turbomachine using startup analysis.

Invention III and IX are related as combination (invention III) and subcombination (invention IX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as

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claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IX, the combination as claimed does not required a condition on turbomachine using standard deviation greater than limits. The subcombination (invention IX) has separate utility such as a condition on turbomachine using standard deviation greater than limits.

Invention III and X are related as combination (invention III) and subcombination (invention X). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention X, the combination as claimed does not required a condition on turbomachine using response to critical speed with load. The subcombination (invention X) has separate utility such as a condition on turbomachine using response to critical speed with load.

Invention III and XI are related as combination (invention III) and subcombination (invention XI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XI, the

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combination as claimed does not required a condition on turbomachine using constant speed with no load. The subcombination (invention XI) has separate utility such as a condition on turbomachine using constant speed with no load.

Invention III and XII are related as combination (invention III) and subcombination (invention XII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XII, the combination as claimed does not required a condition on turbomachine using abnormal vibration in shutdown. The subcombination (invention XII) has separate utility such as a condition on turbomachine using abnormal vibration in shutdown.

Invention III and XIII are related as combination (invention III) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XIII, the combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal

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vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention III and IVX are related as combination (invention III) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination (invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention IV and V are related as combination (invention IV) and subcombination (invention V). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention V, the combination as claimed does not required a condition on turbomachine using vibration and high differtential expansion. The subcombination (invention V) has separate utility such as a condition on turbomachine using vibration and high differtential expansion.

Invention IV and VI are related as combination (invention IV) and subcombination (invention VI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VI, the combination as claimed does not required a condition on turbomachine obtaining data on turning gear behavior. The subcombination (invention VI) has separate utility such as a condition on turbomachine obtaining data on turning gear behavior.

Invention IV and VII are related as combination (invention IV) and subcombination (invention VII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VII, the combination as claimed does not required a rub condition on turbomachine using startup analysis. The subcombination (invention VII) has separate utility such as a rub condition on turbomachine using startup analysis.

Invention IV and VIII are related as combination (invention IV) and subcombination (invention VIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the

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subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VIII, the combination as claimed does not required a condition on turbomachine using startup analysis. The subcombination (invention VIII) has separate utility such as a condition on turbomachine using startup analysis.

Invention IV and IX are related as combination (invention IV) and subcombination (invention IX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IX, the combination as claimed does not required a condition on turbomachine using standard deviation greater than limits. The subcombination (invention IX) has separate utility such as a condition on turbomachine using standard deviation greater than limits.

Invention IV and X are related as combination (invention IV) and subcombination (invention X). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention X, the

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combination as claimed does not required a condition on turbomachine using response to critical speed with load. The subcombination (invention X) has separate utility such as a condition on turbomachine using response to critical speed with load.

Invention IV and XI are related as combination (invention IV) and subcombination (invention XI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XI, the combination as claimed does not required a condition on turbomachine using constant speed with no load. The subcombination (invention XI) has separate utility such as a condition on turbomachine using constant speed with no load.

Invention IV and XII are related as combination (invention IV) and subcombination (invention XII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XII, the combination as claimed does not required a condition on turbomachine using abnormal vibration in shutdown. The subcombination

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(invention XII) has separate utility such as a condition on turbomachine using abnormal vibration in shutdown.

Invention IV and XIII are related as combination (invention IV) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XIII, the combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention IV and IVX are related as combination (invention IV) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination

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(invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention V and VI are related as combination (invention V) and subcombination (invention VI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VI, the combination as claimed does not required a condition on turbomachine obtaining data on turning gear behavior. The subcombination (invention VI) has separate utility such as a condition on turbomachine obtaining data on turning gear behavior.

Invention V and VII are related as combination (invention V) and subcombination (invention VII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VII, the combination as claimed does not required a rub condition on turbomachine using startup analysis. The subcombination (invention VII) has separate utility such as a rub condition on turbomachine using startup analysis.

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Invention V and VIII are related as combination (invention V) and subcombination (invention VIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VIII, the combination as claimed does not required a condition on turbomachine using startup analysis. The subcombination (invention VIII) has separate utility such as a condition on turbomachine using startup analysis.

Invention V and IX are related as combination (invention V) and subcombination (invention IX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IX, the combination as claimed does not required a condition on turbomachine using standard deviation greater than limits. The subcombination (invention IX) has separate utility such as a condition on turbomachine using standard deviation greater than limits.

Invention V and X are related as combination (invention V) and subcombination (invention X). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as

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claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention X, the combination as claimed does not required a condition on turbomachine using response to critical speed with load. The subcombination (invention X) has separate utility such as a condition on turbomachine using response to critical speed with load.

Invention V and XI are related as combination (invention V) and subcombination (invention XI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XI, the combination as claimed does not required a condition on turbomachine using constant speed with no load. The subcombination (invention XI) has separate utility such as a condition on turbomachine using constant speed with no load.

Invention V and XII are related as combination (invention V) and subcombination (invention XII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XII, the

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combination as claimed does not required a condition on turbomachine using abnormal vibration in shutdown. The subcombination (invention XII) has separate utility such as a condition on turbomachine using abnormal vibration in shutdown.

Invention V and XIII are related as combination (invention V) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XIII, the combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention V and IVX are related as combination (invention V) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination

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(invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention VI and VII are related as combination (invention VI) and subcombination (invention VII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VII, the combination as claimed does not required a rub condition on turbomachine using startup analysis. The subcombination (invention VII) has separate utility such as a rub condition on turbomachine using startup analysis.

Invention VI and VIII are related as combination (invention VI) and subcombination (invention VIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention VIII, the combination as claimed does not required a condition on turbomachine using startup analysis. The subcombination (invention VIII) has separate utility such as a condition on turbomachine using startup analysis.

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Invention VI and IX are related as combination (invention VI) and subcombination (invention IX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IX, the combination as claimed does not required a condition on turbomachine using standard deviation greater than limits. The subcombination (invention IX) has separate utility such as a condition on turbomachine using standard deviation greater than limits.

Invention VI and X are related as combination (invention VI) and subcombination (invention X). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention X, the combination as claimed does not required a condition on turbomachine using response to critical speed with load. The subcombination (invention X) has separate utility such as a condition on turbomachine using response to critical speed with load.

Invention VI and XI are related as combination (invention VI) and subcombination (invention XI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as

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claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XI, the combination as claimed does not required a condition on turbomachine using constant speed with no load. The subcombination (invention XI) has separate utility such as a condition on turbomachine using constant speed with no load.

Invention VI and XII are related as combination (invention VI) and subcombination (invention XII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XII, the combination as claimed does not required a condition on turbomachine using abnormal vibration in shutdown. The subcombination (invention XII) has separate utility such as a condition on turbomachine using abnormal vibration in shutdown.

Invention VI and XIII are related as combination (invention VI) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the

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combination as claimed does not require the particulars of the subcombination as claimed because Invention XIII, the combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention VI and IVX are related as combination (invention VI) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination (invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention VII and VIII are related as combination (invention VII) and subcombination (invention VIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as

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claimed because Invention VIII, the combination as claimed does not required a condition on turbomachine using startup analysis. The subcombination (invention VIII) has separate utility such as a condition on turbomachine using startup analysis.

Invention VII and IX are related as combination (invention VII) and subcombination (invention IX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IX, the combination as claimed does not required a condition on turbomachine using standard deviation greater than limits. The subcombination (invention IX) has separate utility such as a condition on turbomachine using standard deviation greater than limits.

Invention VII and X are related as combination (invention VII) and subcombination (invention X). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention X, the combination as claimed does not required a condition on turbomachine using response to critical speed with load. The subcombination

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(invention X) has separate utility such as a condition on turbomachine using response to critical speed with load.

Invention VII and XI are related as combination (invention VII) and subcombination (invention XI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XI, the combination as claimed does not required a condition on turbomachine using constant speed with no load. The subcombination (invention XI) has separate utility such as a condition on turbomachine using constant speed with no load.

Invention VII and XII are related as combination (invention VII) and subcombination (invention XII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XII, the combination as claimed does not required a condition on turbomachine using abnormal vibration in shutdown. The subcombination

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(invention XII) has separate utility such as a condition on turbomachine using abnormal vibration in shutdown.

Invention VII and XIII are related as combination (invention VII) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XIII, the combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention VII and IVX are related as combination (invention VII) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination

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(invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention VIII and IX are related as combination (invention VIII) and subcombination (invention IX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IX, the combination as claimed does not required a condition on turbomachine using standard deviation greater than limits. The subcombination (invention IX) has separate utility such as a condition on turbomachine using standard deviation greater than limits.

Invention VIII and X are related as combination (invention VIII) and subcombination (invention X). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention X, the combination as claimed does not required a condition on turbomachine using response to critical speed with load. The subcombination

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(invention X) has separate utility such as a condition on turbomachine using response to critical speed with load.

Invention VIII and XI are related as combination (invention VIII) and subcombination (invention XI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XI, the combination as claimed does not required a condition on turbomachine using constant speed with no load. The subcombination (invention XI) has separate utility such as a condition on turbomachine using constant speed with no load.

Invention VIII and XII are related as combination (invention VIII) and subcombination (invention XII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XII, the combination as claimed does not required a condition on turbomachine using abnormal vibration in shutdown. The subcombination

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(invention XII) has separate utility such as a condition on turbomachine using abnormal vibration in shutdown.

Invention VIII and XIII are related as combination (invention VIII) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XIII, the combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention VIII and IVX are related as combination (invention VIII) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination

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(invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention IX and X are related as combination (invention IX) and subcombination (invention X). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention X, the combination as claimed does not required a condition on turbomachine using response to critical speed with load. The subcombination (invention X) has separate utility such as a condition on turbomachine using response to critical speed with load.

Invention IX and XI are related as combination (invention IX) and subcombination (invention XI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XI, the combination as claimed does not required a condition on turbomachine using constant speed with no load. The subcombination (invention XI) has separate utility such as a condition on turbomachine using constant speed with no load.

Invention IX and XII are related as combination (invention IX) and subcombination (invention XII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XII, the combination as claimed does not required a condition on turbomachine using abnormal vibration in shutdown. The subcombination (invention XII) has separate utility such as a condition on turbomachine using abnormal vibration in shutdown.

Invention IX and XIII are related as combination (invention IX) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XIII, the combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention IX and IVX are related as combination (invention IX) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination (invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention X and XI are related as combination (invention X) and subcombination (invention XI). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XI, the combination as claimed does not required a condition on turbomachine using constant speed with no load. The subcombination (invention XI) has separate utility such as a condition on turbomachine using constant speed with no load.

Invention X and XII are related as combination (invention X) and subcombination (invention XII). Inventions in this relationship are distinct if it can be shown that (1) the

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combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XII, the combination as claimed does not required a condition on turbomachine using abnormal vibration in shutdown. The subcombination (invention XII) has separate utility such as a condition on turbomachine using abnormal vibration in shutdown.

Invention X and XIII are related as combination (invention X) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XIII, the combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention X and IVX are related as combination (invention X) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility

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by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination (invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention XI and XII are related as combination (invention XI) and subcombination (invention XII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention XII, the combination as claimed does not required a condition on turbomachine using abnormal vibration in shutdown. The subcombination (invention XII) has separate utility such as a condition on turbomachine using abnormal vibration in shutdown.

Invention XI and XIII are related as combination (invention XI) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the

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combination as claimed does not require the particulars of the subcombination as claimed because Invention XIII, the combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention XI and IVX are related as combination (invention XI) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination (invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention XII and XIII are related as combination (invention XII) and subcombination (invention XIII). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as

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claimed because Invention XIII, the combination as claimed does not required a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration. The subcombination (invention XIII) has separate utility such as a condition on turbomachine using low pressure bearing with standard deviation abnormal vibration.

Invention XII and IVX are related as combination (invention XII) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a condition on turbomachine unsteady state vibration determination. The subcombination (invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Invention XIII and IVX are related as combination (invention XIII) and subcombination (invention IVX). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particular of the subcombinations as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Invention IVX, the combination as claimed does not required a

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condition on turbomachine unsteady state vibration determination. The subcombination (invention IVX) has separate utility such as a condition on turbomachine unsteady state vibration determination.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II-IVX, restriction for examination purposes as indicated is proper.

During a telephone conversation with Patrick Patnode on 4/2/05 no election was made. Affirmation of this election must be made by applicant in replying to this Office action. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143)

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can

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be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 703-872-9306

information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL

BRYAN BUI
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Bui B', is written below the printed name and title.